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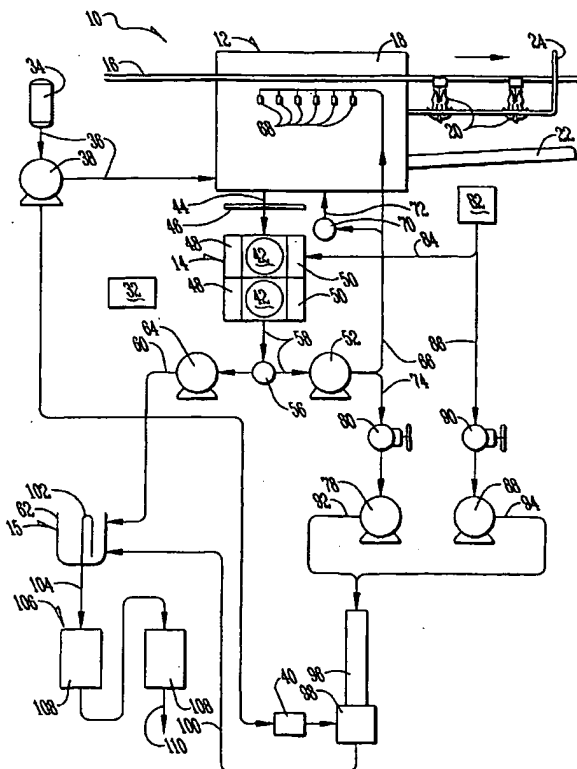
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| <p>(51) <b>International Patent Classification<sup>7</sup>:</b> <b>A23B 4/14, 4/20</b></p> <p>(21) <b>International Application Number:</b><br/>PCT/US2003/035933</p> <p>(22) <b>International Filing Date:</b><br/>12 November 2003 (12.11.2003)</p> <p>(25) <b>Filing Language:</b> English</p> <p>(26) <b>Publication Language:</b> English</p> <p>(30) <b>Priority Data:</b><br/>60/425,679      12 November 2002 (12.11.2002)      US</p> <p>(71) <b>Applicant (for all designated States except US):</b> <b>SAFE FOODS CORPORATION</b> [US/US]; 4801 North Shore Drive, North Little Rock, AR 72118 (US).</p> <p>(72) <b>Inventors; and</b></p> <p>(75) <b>Inventors/Applicants (for US only):</b> <b>NOLEN, Gary</b></p> | <p>[US/US]; 2885 N. Brookbury Crossing, Fayetteville, AR 72703 (US). <b>BEERS, Kelly</b> [US/US]; 1388 Briarcliff St., Fayetteville, AR 72703 (US). <b>RHEINGANS, Joe</b> [US/US]; 401 Buttry Road, Rogers, AR 72756 (US).</p> <p>(74) <b>Agent:</b> <b>ROGERS, Mark</b>; Speed &amp; Rogers, P.A., 1701 Centerview, Suite 125, Little Rock, AR 72211 (US).</p> <p>(81) <b>Designated States (national):</b> AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.</p> <p>(84) <b>Designated States (regional):</b> ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,</p> |
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- (54) Title:** APPLICATION SYSTEM WITH RECYCLE AND RELATED USE OF ANTIMICROBIAL QUATERNARY AMMONIUM COMPOUND



**(57) Abstract:** An antimicrobial application system is disclosed, comprising an antimicrobial application unit and a recycle unit. An initial, dilute antimicrobial composition is prepared. The composition is provided to the antimicrobial application unit and applied to workpieces, such as raw poultry. After application to the workpieces, the composition is returned to the recycle tank. The concentration of the antimicrobial in the recycle tank is monitored, and additional antimicrobial is automatically added if the concentration of the antimicrobial in the composition falls below a desired amount. The composition is periodically diverted to a capture tank, and the antimicrobial is selectively removed from the composition. The removed antimicrobial and remaining composition are then disposed of in appropriate manners. The antimicrobial is preferably a quaternary ammonium compound, is more preferably an alkylpyridinium chloride, and is most preferably cetylpyridinium chloride.



ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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